Adran yr Economi a'r Seilwaith
Department for Economy and Infrastructure

Llywodraeth Cymru
Welsh Government

This document is an update to the 'Proof of Evidence – Chief Witness' document WG 1.1.1. It contains an update following the addition of the bridge protection measures in the DRAFT AMENDMENT (NO.2) SCHEME ORDER and a general update on the works to address the allegation of serious detriment upon Newport Docks by Associated British Ports (ABP).

Scheme Evidence Update

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Welsh Government, Air Quality

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1. AUTHOR

1.1 I am Michael Andrew Bull. I am a Director of Ove Arup and Partners Ltd (Arup), a multi-disciplinary consultancy, where I have been responsible for leading most of the air quality work carried out by Arup for the last 20 years. My professional qualifications are set out in my main Proof of Evidence (WG 1.12.1) and are not repeated here.

1.2 The evidence which I have prepared and provided in this Scheme Evidence Update has been prepared and is given in accordance with the Code of Conduct of the Institute of Air Quality Management and I confirm that the opinions expressed are my true and professional opinions.

2. SCOPE AND PURPOSE OF THIS SCHEME EVIDENCE UPDATE

2.1 As outlined in the Scheme Evidence Update of Mr Matthew Jones (WG 1.1.8), due to the delayed start to and prolonged duration of the Public Local Inquiry coupled with the works required within Newport Docks, the date of when the new section of motorway would be open to traffic is now intended to be December 2023.

2.2 This Scheme Evidence Update provides an update to my previous evidence arising from the change in the opening year from 2022 to 2024.

3. SCHEME EVIDENCE UPDATE

3.1. Mr Bryan Whittaker has indicated in his Scheme Evidence Update (WG 1.2.8) that the net effect of the change in opening years from 2022 to 2024 is a 1.7% growth in flows observed at the opening year and all future years. I have qualitatively assessed the implication of this change in traffic on air concentrations of NO_2, the critical pollutant.

3.2. Concentrations of NO_2 due to road traffic are one component of the total NO_2 concentrations at any receptor. An increase of 1.7% in road traffic would produce an increase in the road traffic component of NOx of 1.7% and an increase in the road traffic component of NO_2 of approximately 1.7% if all other factors were unchanged. The reaction between nitric oxide (NO), NO_2 and ozone is non-linear and that is why the impact would be approximately rather than exactly 1.7% for NO_2.

3.3. Between 2022 and 2024 emission factors for road traffic vehicles are expected to reduce and, while the emission factors depend on speed, the reduction predicted by Defra's Emissions Factor Toolkit (version 8) is greater than 1.7%. Therefore, the net change in NO2 due to road traffic is likely to be less than 1.7% and the impact may even be a reduction in concentration due to road traffic.

3.4. As the increase occurs uniformly across the different scenarios considered, if the magnitude of the change in traffic between the future do minimum and future do something scenarios is unchanged, the change in air quality may also be reduced.

3.5. The air quality assessments in the ES and my Main Proof of Evidence were based on both absolute air concentration levels and changes in concentration between scenarios.

3.6. It is therefore considered that the change to an opening year of 2024 from an opening year of 2022 and future year of 2039 from 2037 would not result in any significant change to the previously reported air quality assessments.

4. CONCLUSION

4.1 I have qualitatively assessed the impact of changes in predicted traffic flows arising from the change in opening years from 2022 to 2039 and conclude that the growth in traffic would not result in any significant change to the air quality assessments previously reported.